



REMARKS

The Patent and Trademark Office action dated November 17, 2004, has been carefully considered. Claims 1 - 6 were originally submitted in this application.

Claims 7 - 10 have been added by this amendment, whereby ten claims are pending with claims 5 and 6 of the pending claims standing withdrawn.

Since claims 5 and 6 relate to method claims and the remaining claims are apparatus claims, there is no likelihood that the restriction can be successfully traversed, so the election stands without traverse.

Claims 1, 3 and 4 were rejected under 35 U.S.C. §103(a) as unpatentable over Tash (356) in view of Warmerdam. Claim 2 is additionally rejected as set forth with the addition of Pottorf.

Applicant has amended the original base claim and has added a new independent claim to particularly point out what is claimed by applicant's invention in view of the prior art and the teachings of the prior art.

Mathison and, for that matter, Warmerdam (015) in Fig. 1 show the type of circumferential raised ribs in part claimed by Applicant. In Mathison, the ribs are called "outer circumferential sealing ribs" (4:63-64); in Warmerdam (015) the ribs are called "a series of circumferential ribs" (2:59) and assist in "preventing the inflated plug from dislocating" (2:63-64).

Since the crux of Applicant's invention is not in the particular manner that the end caps are coupled to the plug body, Mathison showing one scheme and Warmerdam (465) another (except for the groove in each end portion to improve coupling on swaging), the improvement lies in the surface configuration.

The Examiner cites Tash (356) as disclosing the recited pipe plug and claims that discloses "the recited pipe plug comprising an expandable plug body

16 provided with “end portions and a central portion, raised rib sections 26 are provided and a textured set of bands 28 is provided in an alternating fashion between the rib sections 26.” (Action, p.3)

With all due respect, Tash (356) in fact provides that “portions 14 and 18 have a plurality of spaced, parallel, traverse integral external reinforcing ribs 26, while portion 16 has a grid pattern comprising a plurality of spaced parallel, external reinforcing ribs 28 running longitudinally and interconnecting spaced, parallel traverse reinforcing ribs 30” (3:11-17).

There is no suggestion in Tash (356) that the reinforcing ribs 28 and 30 are textured bands or that the reinforcing ribs 28 and 30 are alternating with the reinforcing ribs 26 of end portions 14 and 18. Furthermore, the grid-like reinforcing ribs 28 and 30 cannot legitimately be said to be alternating with the reinforcing ribs 26, simply because a series of ribs 28 and 30 are between a series of ribs 26 at each end of the plug.

Although “texture” can broadly mean “the visual or tactile surface characteristics and appearance of something,” (Webster’s Collegiate Dictionary, 10th ed., texture, 3b), the word has its origins in the weave of cloth, i.e., “something composed of closely interwoven elements; specif: a woven cloth (Webster’s, ibid, 1a).

It is recognized that the manner of a discovery does not determine the patent rights to an invention, but it does have relevance in determining the appropriate application of prior art.

Applicant recognized the anti-friction benefits of the imperfect hand wrapped pipe plugs which are formed by wrapping uncured rubber strips impregnated with parallel cord in a criss-cross manner. However, with the advance to a mold cure formed plug, the inclusion of projecting ribs formed by

grooves in the mold became advantageous. The smooth blemish-free surface of the plug between ribs provided a professional manufactured appearance.

However, it was found that gripping during inflation could be enhanced by the textured surface between raised ribs.

Neither the raised ribs nor the textured bands of Applicant facilitate insertion of the plug into a pipe. As recognized by the Examiner in Tash (356), “Ribs 26, 28, and 30 reduce frictional contact (sic) member 12 with the walls of pipes through which they must pass to be placed in a proper blocking location and thereby facilitate sliding of member 12 in pipes.” (3:177-21). The ribs 26, 28 and 30 are all raised ribs, although Tash suggests the longitudinal ribs may be slightly lower in height than the transverse ribs (2:28-32).

Notably, the device of Tash (356) is for test of household drain pipes three to four inches in diameter, where the safety demands differ from the larger sizes of municipal and industrial sewer lines. The fields, while related, differ.

In Applicant’s device, the outer surface has alternating raised ribs and textured bands. A “band” is “a strip (as of living tissue or rock) or a stripe (as on an animal) differentiable (as by color, texture, or structure) from the adjacent material or area.” (Webster’s *ibid.*, band 4b).

The different terminology use by Applicant and Tash must be respected. In Tash (603), a closely related disclosure to Tash (356), it is stated with regard to an alternate embodiment, “Device 10a is substantially identical to device 10, except portions 14a, 16a and 18a of member 12a are without external ribs and have smooth exteriors.” (4:66-5:1) Clearly, Tash does not teach a series of alternating circumferential raised ribs and circumferential textured bands.

In rejecting claim 2, the Examiner additionally cites Pottorf, claiming Pottorf discloses raised diagonal portions between diamond shaped indentations.

The Examiner then suggests the diamond surface configuration of Pottorf could be substituted for the crossed pattern of Tash and meet the grooved diamond shape of Applicant as a mere reversal of parts.

This contention has two flaws:

First, in Pottorf, the outer surface of the sleeve 29 is described as consisting of “two sets of helical, substantially parallel ribs or ridges 68 and 69.” (2:11-16). This cannot be considered the equivalent of Applicant’s textured band. In fact, the ribs or ridges 68 and 69 are closer in function and equivalence to Applicant’s raised ribs. Notably, in Pottorf, “because the sets of ridges 68 and 69 intersect forming the spaced or closed-off depressions 71, fluids are positively prevented from traveling longitudinally through the depressions 71 and thus leaking around the packer.” (5:37-42).

Second, even aside from the obvious size difference implied between ribs and a textured surface having diagonal cross grooves to produce a knurled gripping surface, the reversal of parts argument is inappropriate, since the cross grooves would provide channels for fluid, thus defeating the common purpose of each of the surface configurations disclosed by Pottorf. As Pottorf states, “In other words, there is a continuous line of contact, defined by the dotted line AB, shown best in Figure 1, where the sleeve 29 initially makes contact completely around the wall of well 21, as the sleeve expands.” (5:42-46).

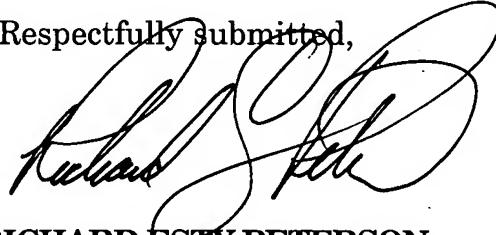
In summary, combining selected features of Tash and Pottorf with Warmerdam with or without the teachings of Mathison, is not suggested in the references. Furthermore, not only is there no suggestion in the references, the references would likely lead one of ordinary skill in the art away from the surface combination claimed by Applicant since the function of the elements described in the references and the function of the elements in the combination taught by

Applicant are different. The fact that the advantage of Applicant's device seems reasonable on hindsight does not make it obvious. Nor does the fact that a hypothetical combination suggested by the Examiner may have different advantages, i.e., easier insertion (see Action, p. 5), make Applicant's combination obvious.

Applicant has clarified the base claims by defining the raised ribs and bands as "circumferential" to avoid any misunderstanding that they may be longitudinal. Adding alternating raised ribs and textured band is not going to facilitate insertion of Applicant's device and will likely impede such activity. However, sealing and gripping are improved.

Applicant respectfully requests that the amendments to the claims and specification be entered and the application be reexamined with a view toward allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Richard Esty Peterson".

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